APPARATUS FOR CREATING A MULTI-DIMENSIONAL DATA SIGNAL

ABSTRACT

An optical disk drive (**101**) is disclosed which has essentially no seek time. The drive utilizes a Virtual Head (VH) (**103**) which is capable of accessing any and/or all tracks in an optical disk (**111**) at any time. The drive utilizes a procedure by which all of the tracks (**208**) in an optical disk are continuously mapped to a detector (**121**) space at all times, thus making data stored on the disk drive available almost instantaneously. The mapping of the optical disk tracks to the sensor space is direct in that it is predetermined and is an integral part of the driver software. The direct mapping makes it possible to use the least amount of computation time required to access any track. The technique is enabled by using a combination of a holographic lens element (**125**) with the detector. The technique and the components used in this device open the possibility for rapid data transfers using multidimensional data access.